

REMARKS

INTRODUCTION

In accordance with the foregoing, claim 1 has been amended. Claim 12 has been cancelled. Claims 1-5, 7-11, 14, 15 and 18 are pending and under consideration.

GROUND FOR ENTRY OF THIS RESPONSE PURSUANT TO 37 C.F.R. 1.116

The Applicants respectfully request entry of this Rule 116 Response because it is believed that the amendments and arguments put forward place these claims in condition for allowance. These amendments and arguments were not earlier presented because the Applicants believed in good faith that the cited prior art did not disclose the present invention as claimed.

CLAIM REJECTIONS – 112, First Paragraph

Claims 1-5, 7-12, 14, 15 and 18 were rejected under 35 USC 112, first paragraph, as failing comply with the written description requirement.

Regarding the statement “it is unclear how the first controller drives the plurality of fingers to compensate for the displacement,” the specification of the present application provides the following disclosure on page 6, lines 25-29: “The first visual sensor 23 calculates a displacement of the position/orientation of the supplied object W from a predetermined reference position/orientation and sends the displacement as position/orientation compensation amount to the controller 10a.” It is respectfully submitted that at least this disclosure in the present application enables the feature of independent claims 1 and 7 to drive the plurality of fingers to compensate for the displacement.

Regarding the statement “it is unclear how torque is controlled,” the specification of the present application provides the following disclosure on page 7, lines 6-17: “It is determined whether or not the holding operation of the object W by the robot hand 11 is completed based on determination whether or not an output torque (driving current) of the servomotors for driving the fingers of the robot hand 11 reaches set values (Step S5). Alternatively, the completion of the holding operation may be determined based on an output of a force sensor for sensing gripping force of the fingers. When it is determined that the holding operation is completed, a command to move the held object W to the place of image capturing by the second visual sensor 41 is

issued (Step S6), and a signal indicating completion of taking out the object is issued to the automatic storehouse 20 (Step S7). The controller of the automatic storehouse 20 returns the empty pallet 21 into the storehouse and supplies a new pallet 21 on which another object is placed to the object supply place.” It is respectfully submitted that this disclosure in the present application enables the feature of independent claims 1 and 7 to control force of gripping by the fingers on the object.

Regarding the statement “it is unclear how the plurality of fingers are adjusted,” the specification of the present application provides the following disclosure on page 5, line 21 through page 6, line 4 of the present application: “The servo control section 5 comprises servo controllers 5a1-5an (n: the sum of the number of axes of the robot and the number of axes of the servo hand), each of which including a processor, a ROM and a RAM to perform a position and velocity loop control and a current loop control of an associated one of the servomotors M1-Mn. Each of the servo controllers 5a1-5an is constructed as a digital servo controller which performs the position, velocity and current loop controls by software means. The servomotors M1-Mn are respectively driven by the servo amplifiers 5b1-5bn in accordance with the outputs of the servo controllers 5a1-5an. Although not shown in FIG. 3, position/velocity detectors are respectively provided at the servomotors M1-Mn, and position/velocity of the respective servomotors detected by the position/velocity detectors are respectively fed back to the servo controllers 5a1-5an. The first visual sensor 23, the second visual sensor 41, a robot controller of the second robot 40, a controller of the automatic storehouse 20, a controller of the machine 30 and further the peripheral devices of the first robot are connected to the input/output interface 6.” It is respectfully submitted that this disclosure in the present application enables the feature of independent claims 1 and 7 where the fingers are driven by one or more servomotors controlled by the first robot controller so that a position of the fingers on the object is controlled.

Claim 12 has been cancelled. Claims 2-5, 8-11, 14, 15 and 18 are dependent on claims 1 and 7, respectively, and are therefore believed to be allowable and enabled for the foregoing reasons.

Withdrawal of the foregoing rejection is requested.

CLAIM REJECTIONS – 112, Second Paragraph

Claims 1-5 and 12 were rejected under 35 USC 112, second paragraph, as being indefinite.

Regarding claim 1, appropriate correction has been made to claim 1 in accordance with the Examiner's suggestion.

Regarding claim 12, claim 12 has been cancelled.

Claims 2-5 are dependent on claim 1 and are therefore believed to be definite for the foregoing reasons.

Withdrawal of the foregoing rejection is requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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